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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/039,961

12/31/2001

Andrew F. Glew

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EXAMINER

SCHUBERT, KEVIN R

ART UNIT

PAPER NUMBER

2137

DATE MAILED: 07/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/039,961		GLEW ET AL.	
	Examiner		Art Unit	
	Kevin Schubert		2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12-18, 22-24, 27-29 and 32-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-18, 22-24, 27-29 and 32-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-9,12-18,22-24,27-29, and 32-39 have been considered. After careful review of Applicant's Remarks submitted 6/5/06, Examiner maintains all prior art rejections. Further, Examiner respectfully notes that while it is believed that the claims, as presented, still read on an exorbitant amount of prior art, only four prior art rejections have been applied for the sake of brevity.

Information Disclosure Statement

Examiner notes that the IDS submitted 11/12/2002 has been placed in the file but has not been fully considered. It appears applicant has neglected to include the proper Foreign Patent Document citation, including the patent number of pertaining documents, on the 1449 form.

Abstract

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred medication or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art. Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;

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(3) if a chemical compound, its identity and use;

(4) if a mixture, its ingredients;

(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given. The abstract of the disclosure is objected to because it fails to sufficiently disclose the present invention. See MPEP 608.01(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,6-9,12-14,16-18, and 22-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Davis, U.S. Patent No. 6,401,208. The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

As per claims 1 and 24, Davis discloses a processor comprising the following limitations:

a) memory (Col 5, line 4 to Col 6, line 13);

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b) one or more execution units to authenticate an authenticated code module stored in the memory and to execute the authenticated code module stored in the memory in response to executing a launch instruction (Col 5, line 4 to Col 6, line 13);

c) wherein components separate from the processor are prevented from altering the
5 authenticated code module in the memory (Col 5, line 4 to Col 6, line 13).

As per claim 6, the applicant describes the processor of claim 1, which is met by Davis, with the following limitation which is also met by Davis:

Further comprising a decoder to generate one or more opcodes for the launch instruction,
10 wherein the execution units authenticate and execute the authenticated code module in response to executing the one or more opcodes (Col 5, line 4 to Col 6, line 13).

As per claims 7-8,12-14, and 28-29, the applicant describes the processor of claims 1 and 24, which are met by Davis, with the following limitation which is also met by Davis:

15 Further comprising a key, wherein the execution units utilize the key to authenticate the authenticated code module (Col 5, line 4 to Col 6, line 13).

As per claim 9, the applicant describes the processor of claim 1, which is met by Davis, with the following limitation which is also met by Davis:

20 Wherein the execution units, in response to the launch instruction retrieve a key from a chipset and use the key to authenticate the authenticated code module stored in the memory (Col 4, lines 21-40 and Col 5, line 4 to Col 6, line 13).

As per claims 16-18, the applicant describes the processor of claim 1, which is met by Davis, with
25 the following limitation which is also met by Davis:

Wherein the execution units initiate execution of the authenticated code module only if the authenticated code module is determined to be authentic (Col 5, line 4 to Col 6, line 13).

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As per claims 22 and 32, the applicant describes the processor of claims 1 and 24, which are met by Davis, with the following limitation which is also met by Davis:

Wherein the execution units authenticate and initiate execution of the authenticated code module
5 stored in the memory in response to executing microcode associated with the launch AC instruction (Col 5, line 4 to Col 6, line 13).

As per claims 23 and 33, the applicant describes the processor of claims 1 and 24, which are met by Davis, with the following limitation which is also met by Davis:

10 Embodied in a machine readable medium (Col 5, line 4 to Col 6, line 13).

As per claim 27, applicant describes the processor of claim 24, which is met by Davis, with the following limitation which is also met by Davis:

Wherein execution of the instruction results in the execution units loading the authenticated code
15 module into a private memory associated with the processor (Col 5, line 4 to Col 6, line 13).

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

20
Claims 1-5,24, and 34-36 are rejected under 35 U.S.C. 102(b) as being anticipated by McGarvey, U.S. Patent No. 5,926,631.

25 As per claims 1,24, and 34, the applicant describes a processor comprising the following limitations which are met by McGarvey:

a) a cache memory (Col 5, lines 46-57);

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b) one or more execution units to execute an instruction that results in the one or more execution units loading an authentication module into the cache memory and authenticating the authenticated code module stored in the cache memory (Col 5, lines 46-57).

5 As per claims 2-3, the applicant describes the processor of claim 1, which is met by McGarvey, with the following limitations which are also met by McGarvey:

Further comprising a cache memory that provides the memory (Col 5, lines 46-57).

10 As per claims 4-5, the applicant describes the processor of claims 3 and 1, which are met by McGarvey, with the following limitation which is also met by McGarvey:

Wherein the execution units lock the cache memory to prevent replacement of lines of the authenticated code module stored in the cache memory (Col 9, lines 16-21).

15 As per claim 35, the applicant describes the processor of claim 34, which is met by McGarvey, with the following limitation which is also met by McGarvey:

Wherein the execution units initiate execution of the authenticated code module stored in the cache memory in response to determining that the authenticated code module is authentic (Col 5, lines 46-57).

20 As per claim 36, the applicant describes the processor of claim 34, which is met by McGarvey, with the following limitation which is also met by McGarvey:

Wherein the execution units retrieve a key and authenticate the authenticated code module based upon the key (Col 9, lines 16-21).

25 Claims 1,24, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Sadovsky, U.S. Patent No. 5,689,638.

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As per claims 1,24, and 34, the applicant describes a processor comprising the following limitations which are met by Sadovsky:

a) a cache memory (Sadovsky: claims 10-12);

b) one or more execution units to execute an instruction that results in the one or more execution units loading an authentication module into the cache memory and authenticating the authenticated code module stored in the cache memory (Sadovsky: claims 10-12).

Claims 1,24, and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Peters, U.S. Patent Application No. 6,393,420.

10

As per claims 1,24, and 34, the applicant describes a processor comprising the following limitations which are met by Peters:

a) a cache memory (Col 3, line 38 to Col 4, line 37);

b) one or more execution units to execute an instruction that results in the one or more execution units loading an authentication module into the cache memory and authenticating the authenticated code module stored in the cache memory (Col 3, line 38 to Col 4, line 37).

Claims 1,24, and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Kedem, U.S. Patent Application No. 6,389,511.

20

As per claims 1,24, and 34, the applicant describes a processor comprising the following limitations which are met by Kedem:

a) a cache memory (Col 13, lines 8-40);

b) one or more execution units to execute an instruction that results in the one or more execution units loading an authentication module into the cache memory and authenticating the authenticated code module stored in the cache memory (Col 3, lines 8-40).

25

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGarvey in view of Schneier (Schneier, Bruce. Applied Cryptography. John Wiley & Sons. 1996. Washington D.C. pages 34-41).

As per claim 37, the applicant describes the method of claim 36, which is met by McGarvey, with the following limitation which is met by McGarvey and Schneier:

Wherein the execution units obtain a digest value by decrypting a portion of the authenticated code module with the key, generated a computed digest value, and determine authenticity of the authenticated code based upon a relationship between the digest value and the computed digest value (McGarvey: Col 9, lines 16-21; Schneier: page 38).

McGarvey discloses all the limitations of claim 36. McGarvey further discloses that the execution units compare signature values. McGarvey is silent as to the signature values being compared via the particulars of the above claim. Schneier discloses that an effective comparison of signatures commonly involves these particulars. It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Schneier with those of McGarvey because doing so allows for an effective means to ensure proper signature comparison and evaluation.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGarvey in view of Schneier in further view of Abgrall, U.S. Patent No. 2003/0037237.

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As per claim 15, the applicant describes the processor of claim 1, which is met by McGarvey, with the following limitation:

Wherein the execution units, in response to the launch instruction, RSA-decrypt a signature of the authentication code module to obtain a digest value from the signature, perform a SHA-1 hash on the authenticated code module to generate a computed digest value, and determine that the authenticated code module is authentic in response to the digest value and the computed digest value being equal (Schneier: page 38; Abgrall: [0346]);

McGarvey discloses all the limitations of claim 1. McGarvey further discloses that the execution units compare signature values. McGarvey is silent as to the signature values being compared by the particulars of the above claim. Schneier discloses that an effective comparison of signatures commonly involves these particulars. It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Schneier with those of McGarvey because doing so allows for an effective means to ensure proper signature comparison and evaluation.

McGarvey in view of Schneier do not disclose that the particular algorithms used in the signature verification. Abgrall discloses that RSA and SHA-1 are commonly used in signature verification. It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Abgrall with those of McGarvey in view of Schneier because RSA and SHA-1 are commonly used and known to be effective algorithms for use in such a verification process.

Claims 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGarvey.

As per claims 38-39, the applicant describes the processor of claim 36, which is met by McGarvey, with the following limitation:

Wherein the execution units retrieve the key and authenticate the authenticated code module in response to execution microcode (McGarvey: Col 9, lines 16-21);

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McGarvey discloses that the execution units retrieve a key and authenticate the authenticated code module in response to executing some form of code. McGarvey is silent as to the form of code being microcode. Examiner took official notice that is well-known in the art to execute microcode in authentication in the non-final action mailed 1/31/06. Based on Applicant's failure to traverse in the

5 Remarks filed 6/5/06, the foregoing is taken to be admitted prior art (see MPEP 2144.03 [R-1]). It would have been obvious to one of ordinary skill in the art at the time the invention was filed to use microcode in the McGarvey system because microcode provides a convenient, efficient means of authentication instruction.

10

Response to Arguments

Applicant's arguments, see Remarks, filed 6/5/06, with respect to the Double Patenting rejection in light of copending application 10/041,071 have been fully considered and are persuasive. The Terminal Disclaimer filed 6/5/06 has been entered in part. The Terminal Disclaimer seeks to tie together the instant application with copending applications 10/041,071 and 10/039,595. Since 10/041,071 was

15 the basis for the Double Patenting rejection (not 10/039,595) in the previous action, the Terminal Disclaimer has been entered with respect to 10/041,071 but not 10/039,595. Accordingly, the Terminal Disclaimer, which has been entered in part, overcomes the Double Patenting rejection of 10/041,071 and as such the rejection has been withdrawn.

20

Applicant's arguments with respect to the Claim Objection of claim 37 have been fully considered and are persuasive. The Claim Objection of claim 37 has been withdrawn.

25

Applicant's arguments with respect to the Objection of the abstract have been fully considered, but they are not persuasive. The abstract of the disclosure remains objected to because it is not an

adequate and clear statement of the contents of the disclosure and generally in line with the guidelines. The Applicant's abstract fails to enable the United States Patent and Trademark Office and the public

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generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure.

Correction is required. See MPEP 608.01(b).

Applicant's arguments with respect to the 112 rejections of claims 8-9 and 1-9, 12-18, and 22-24 have been fully considered and are persuasive. The 112 rejections of the foregoing claims have been withdrawn.

Applicant's arguments with respect to the 102(e) rejection of claim 1 under Davis have been fully considered but they are not persuasive. Applicant presents the following argument:

1) A processing unit (110 of Fig 1) in the Davis reference does not comprise memory, therefore Davis does not teach a *processor comprising memory*

Examiner respectfully, but most strenuously, disagrees. Applicant's expansive language of a "processor" is not confined to individual processing unit 110 of Davis. For one example, the computer is a processor. Further, the computer comprises memory.

Applicant's arguments with respect to the 102(b) rejection of claim 1 under McGarvey, the 102(b) rejection of claim 1 under Sadovsky, the 102(b) rejection of claim 1 under Peters, and the 102(e) rejection of claim 1 under Kedem have been fully considered but they are not persuasive for at least the reasons given with respect to the Davis rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH

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shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Schubert whose telephone number is (571) 272-4239. The examiner can normally be reached on M-F 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where
10 this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should
15 you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

20 KS


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